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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,076

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Katsuki Kusunoki

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

HU, SHOUXIANG

ART UNIT

PAPER NUMBER

2811

MAIL DATE

DELIVERY MODE

09/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,076	Applicant(s) KUSUNOKI, KATSUKI	
	Examiner Shouxiang Hu	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the term of “longitudinal recess portion”, but fails to define which of the multiple dimensions of the recited device is along the longitudinal direction, and/or whether it is the direction along the anode-cathode (i.e., the positive-negative electrodes) direction or perpendicular to the anode-cathode direction that is the recited longitudinal direction, among other relevant longitudinal dimensions/directions.

Claim 1 recites the term of “a side surface” (line 2), but fails to clarify which one of the recited device and substrate the recited side surface definitely belongs to; and/or it is not clear whether the recited side surface is the side surface of the recited device or is the side surface of the recited substrate.

Claim 1 recites the term of “a side direction of the device”. However, it fails to clarify: what is definitely the direction of the recited “side direction of the device”, given that the device naturally has multiple side surfaces, including multiple lateral side surfaces, and it is not clear whether the recited side direction is definitely the direction of the “side surface” recited in the claim; and/or, it is not clear whether the recited “side

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direction" definitely refers to a direction that is parallel to a side surface or is perpendicular to such a side surface.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1, insofar as being in compliance with 35 U.S.C. 112, is rejected under 35 U.S.C. 102(b) as being anticipated by Lumbard (Lumbard et al., US 4,843,280).

Lumbard discloses a semiconductor light-emitting device (Fig. 1), having a light-emitting layer (naturally included in 15) on a major surface of a substrate (12), wherein at least a part of a substrate portion of one device side surface has longitudinal recessed portions (23, 25) inwardly extended in a side direction of the device; and wherein the recessed portions have a shape in cross section that is substantially semicircular.

Furthermore, it is noted that the term of "compound" recited in claim 1 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190

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USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 18 and 19, insofar as being in compliance with 35 U.S.C. 112, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (Kato et al., US 6,809,340).

Kato discloses a compound semiconductor light-emitting device (Figs. 1-2, 6-7 and 9-10), having a light-emitting layer (104) on a major surface of a substrate (101, 102 and 103, which is readable as a substrate since at least layer 140 is formed thereon), wherein at least a part of a substrate portion (at least the upper layers in 103) of one device side surface has longitudinal recessed portions (109) inwardly extended in a side direction of the device; and wherein the recessed portions have a shape in cross section that is substantially curved.

Although Kato does not expressly disclose that the curved recess portion can have a semicircular shape, one of the ordinary skill in the art would readily recognize that the specific shape/curvature) of the recess portion, which in Kato is for improving

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light extracting efficiency, is an art-recognized result-oriented parameter/factor subject to routine experimentation and optimization.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device of Kato with the shape of the curved recess portions being semicircular, so that a light-emitting device with improved and/or optimized light extracting efficiency would be obtained.

Regarding claim 4, it is further noted that at least layer 101 in the above identified substrate is formed of sapphire.

Regarding claims 5 and 6, it is further noted that the distance between the adjacent recessed portions and the width and/or depth of the recessed portions are all art-recognized important parameters subject to routine experimentation and optimization. Therefore, it would also have been obvious to one of ordinary skill in the art at the time the invention was made to make the device of Kato with the recited distance, depth and/or width for the recessed portions, so as to form a light emitting device with further improved and/or optimized light-extracting performance.

Regarding claim 7, the above light emitting device can naturally be of the flip-chip type, as both of its two electrodes are formed on a same side (i.e., the top side).

Regarding claims 18 and 19, it is further noted that the above light-emitting device can inherently function as a lamp and/or light source.

Response to Arguments

6. Applicant's arguments against the "112-2nd" rejection, filed on 07/21/2009, have been fully considered but they are not fully persuasive. Responses to them have been fully incorporated into the claim rejections set forth above in this office action.
7. Applicant's other arguments with respect to the claims rejected above have also been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on 571-272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shouxiang Hu/

Primary Examiner, Art Unit 2811